

channel DCH, for For this reason, no common channel DSCH is necessary for this purpose.

The in-band signaling of the TFCI values is effected as shown in Figure 9. Within frame-by-frame transmission of data (~~data~~) together with other information, capacity is also provided for transmitting the currently chosen combination of the transport formats TF and allocation of the common channels DSCH in the form of the TFCI values. In the FDD mode of UMTS, a frame lasts 10 ms, with bits of a pilot sequence (~~pilot~~) serving for channel estimation, bits (~~pe~~) being required for transmission power regulation and bits being reserved for in-band signaling of the TFCI. Next comes a data component ~~data~~ with user information. Error protection coding of the TFCI on, by way of example, 32 bits and scrambling of the user information over a plurality number of frames are not shown in Figure 9.

Although the present invention has been described with reference to specific embodiments, those of skill in the art will recognize that changes may be made thereto without departing from the spirit and scope of the invention as set forth in the hereafter appended claims.

Abstract

ABSTRACT OF THE DISCLOSURE

Method for transmitting data in a radio communication system

- A method for transmitting data in a radio communication system directed
5 toward ~~The invention is based on the idea of~~ implicitly signaling used common
channels using the data rate, and ~~of~~ permitting a plurality number of combinations
of channels (spread codes) as alternatives only for particular data rates for the
individual services. This saves transmission capacity, because there is no need to
reserve any individual bits within the TFCI parameter just for allocating the
10 common channels to different connections. ~~The invention method~~ is preferably
applied in the downlink of the FDD mode of UMTS mobile radio systems.

Figure 7

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Description

Method for transmitting data in a radio communication system

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The invention relates to a method for transmitting data in a radio communication system, in particular in mobile radio systems with a broadband radio interface, which are called UMTS (universal mobile telecommunication system).

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In radio communication systems, data are transmitted via a radio interface using electromagnetic waves. The radio interface refers to a connection between a base station and subscriber stations, with the subscriber stations being able to be mobile stations or stationary radio stations. In this context, the electromagnetic waves are radiated at carrier frequencies situated in the frequency band provided for the respective system.

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For future radio communication systems, for example the UMTS mobile radio system or other 3rd generation systems, frequencies in the frequency band of approximately 2000 MHz are provided, with the bandwidth of a channel being 5 MHz.

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By contrast with systems like GSM (global system for mobile communications), a plurality of services which can also be transmitted in parallel is provided for the UMTS mobile radio system. Patent specifications EP 98 122 719 and DE 198 55 194 describe options for signaling the transport formats for the combination of data for a plurality of services. The data for a plurality of services on a connection are transmitted via a jointly used physical channel in this case.

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